

WHAT IS CLAIMED IS:

1. A projection type display optical system comprising:

a light source;

DMD as an image display means which receives a light beam emitting from the light source ; and

an illumination unit installed in between the light source and the image display means, and comprising: a rod lens operating as an optical device for unifying the brightness distribution of an incident light ray from the light source and emitting the brightness unified light ray; a first lens for transmitting the emitted light ray by the rod lens; a second lens on which the transmitted light ray from the first lens incidents; and

a projection part for magnifying and projecting an image formed on the image display means onto a screen,

wherein the first and second lenses are set in such a manner that an optical axis of the second lens and an optical axis of the first lens do not coincide with each other, whereby a surface image that is formed when an emitted surface of the rod lens transmits the first and second lens groups is not inclined to the surface of the image display means.

2. The projection type display optical system according to claim 1, wherein the optical axis of the second lens does not coincide with the optical axis of the first lens, and the second lens is decentered with respect to the optical axis of the first lens, whereby the surface

image that is formed when the emitted surface of the rod lens transmits the first and second lens groups is not inclined to the surface of the image display means.

3. The projection type display optical system according to claim 1, wherein the optical axis of the second lens is in parallel with a light path of the optical axis of the first lens.

4. The projection type display optical system according to claim 3, wherein the optical axis of the first lens coincides with a central axis of the rod lens.

5. The projection type display optical system according to claim 3, wherein the optical axis of the first lens and the optical axis of the second lens are parallel to each other.

6. The projection type display optical system according to claim 1, wherein, if a light ray to the optical axis of the first lens is incident on the second lens and emitted by the second lens, an angle between the emitted light ray from the second lens and the optical axis of the first lens is equal to an angle between an emitted light ray from the image display means in on state and the emitted light ray from the second lens.

7. The projection type display optical system according to claim 3, wherein the second lens is a mirror type lens.

8. The projection type display optical system according to claim 3, wherein a reflection mirror for changing the light path of a light ray is installed in between the first lens and the second lens.

9. The projection type display optical system according to claim 3, wherein the second lens has an aspheric surface.